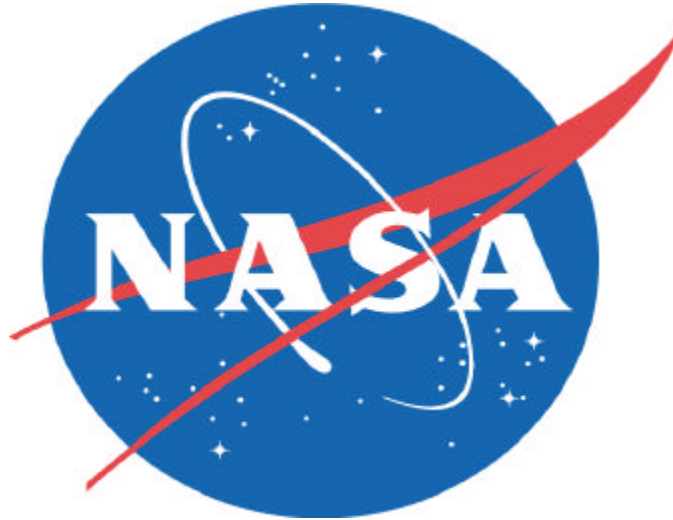Responsible Office: Code AO
Subject: IT Capital Investment Development Process

Chief Information Officer

Office Work Instruction

Information Technology Capital Investment Development Process

Approved by: _Original Signed by Lee B. Holcomb on June 7, 2000__
Lee B. Holcomb
Chief Information Officer

Responsible Office: Code AO
Subject: IT Capital Investment Development Process

DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		December 7, 1999	
Revision	A	March 31, 2000	Incorporates suggestions and correction of finding from DNV Pre-Assessment Audit in Sections 3, 5, 6 and 7.
Revision	B	June 7, 2000	Incorporates observation from the DNV Audit of May 2000.

Responsible Office: Code AO
Subject: IT Capital Investment Development Process

1.0   Purpose

The purpose of this OWI is to document the procedure for managing IT capital investment while developing the annual IT budget.

2.0   Scope and Applicability

2.1   Scope

This work instruction describes procedures for the NASA Chief Information Officer (CIO), Code AO, Information Technology Capital Investment Development Process. This process involves defining IT management and technical goals and objectives consistent with NPD 1000.1 *NASA Strategic Plan* and NPG 1000.2 *NASA Strategic Management Handbook*. It incorporates these goals into the IT POP Call Guidance with input from Enterprise and Center representatives, and manages problem resolution throughout the budget development cycle, culminating in distribution of the IT Final Budget and Final IT Implementation Plan for the Agency.

2.2   Applicability

This work instruction for IT Capital Investment Development Process applies to NASA Chief Information Officer (Code AO) offices. The Chief Information Officer is responsible for maintaining this document. The controlled version of this OWI is available on the NASA Intranet via the HQ ISO 9000 Document Library at http://hqiso9000.hq.nasa.gov. Any printed version of this OWI is uncontrolled (reference: HCP 1400.1, *Document and Data Control*).

3.0   Definitions

3.1   CIC Capital Investment Council, as defined in NASA Strategic Management Handbook, NPG 1000.2, Paragraph 3.2.3.2

3.2   CIO Chief Information Officer

3.3   CIO Action Registry, Intranet-based action tracking system utilized within the NASA CIO community

3.4   Code B Office of the Chief Financial Officer (CFO)

3.5   Enterprise NASA Headquarters Program Offices, Codes M, R, S, U, and Y, as defined in the NASA Organization Handbook, Paragraph 102.a.2

3.6   Enterprise and Center Representatives CIO Representatives, as defined in Managing Information Technology, NPD 2800.1, Paragraph 5.d.

3.7   IT Information Technology

3.8   IT Investment Council Newly chartered council chaired by the Chief Information Officer, as defined in NPG 1000.2 DRAFT NASA Strategic Management System, Paragraph 2.2.5.6, and replacing, the CIO Council defined in NPG 1000.2 NASA Strategic Management Handbook, Paragraph 3.2.4.5

3.9   POP Program Operating Plan

4.0   OMB Office of Management and Budget

4.1   OMB Circular A-11 Guidance document issued by OMB every year in July. This circular defines budget exhibits that must be submitted to OMB, and it provides guidance to agencies on how to prepare their budget submissions to OMB.

OMB Passback Office of Management and Budget notification of Agency amount to be included in the President's budget.

4.0   References

4.1	NPD 1000.1	NASA Strategic Plan
4.2	NPG 1000.2	NASA Strategic Management Handbook
4.3	HCP 1400.1	Document and Data Control
4.4	NPD 2800.1	Managing Information Technology
4.5	NPG 2800.1	Managing Information Technology
4.6		Information Technology Implementation Plan
4.7	OMB Circular A-11	Preparation and Submission of Budget Estimates

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5.0   Flowchart

Key:
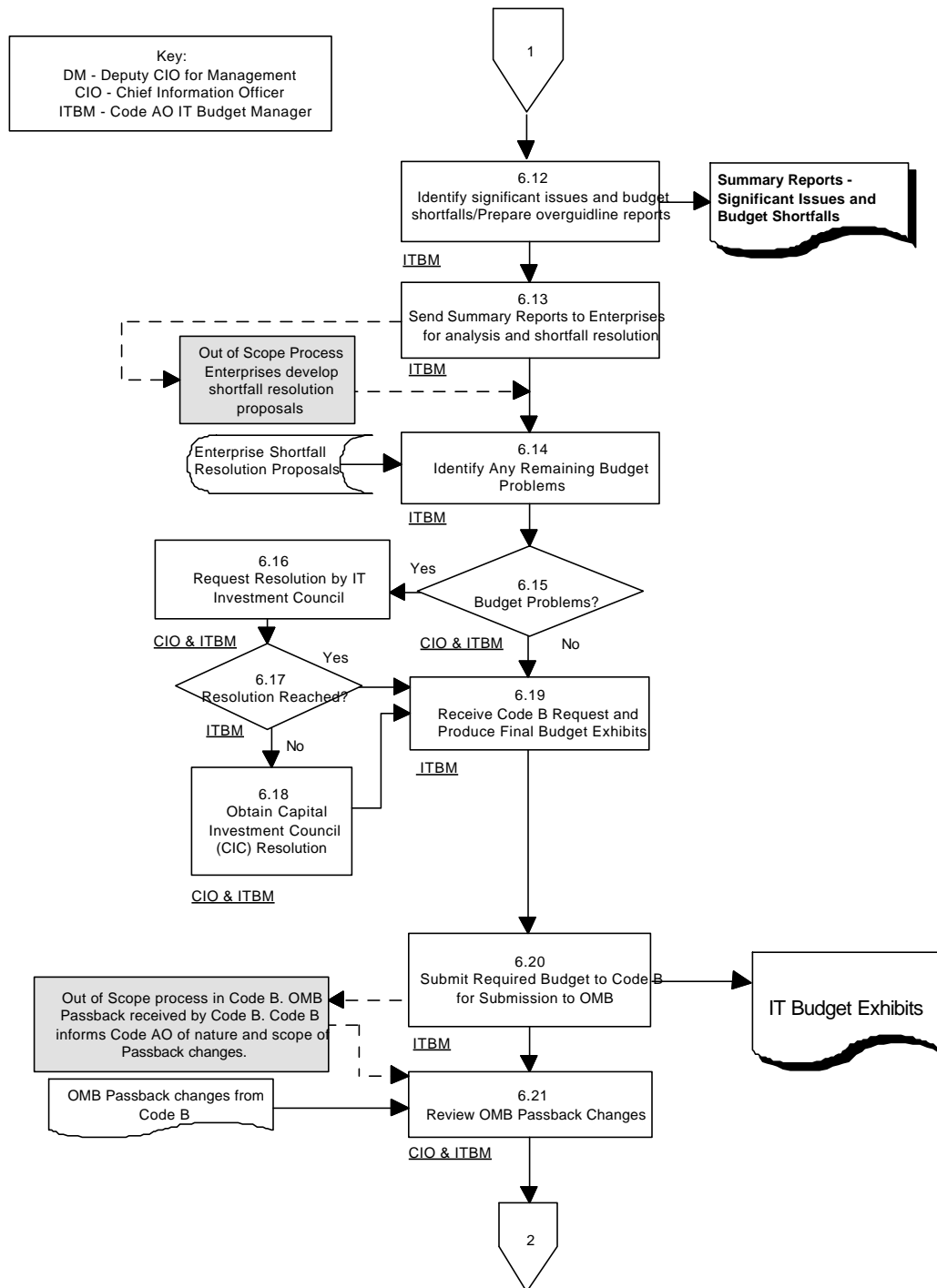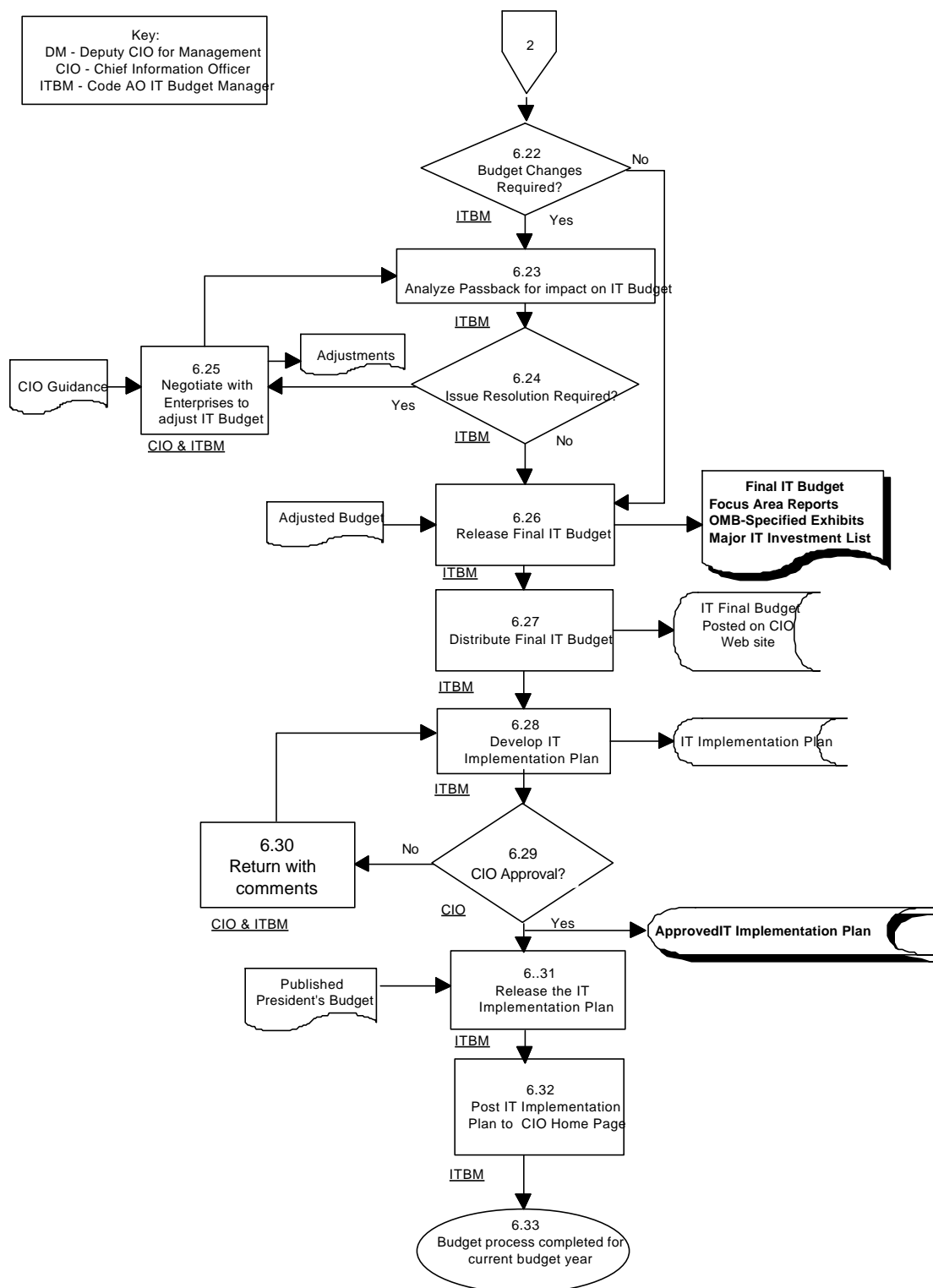DM - Deputy CIO for Management
CIO - Chief Information Officer
ITBM - Code AO IT Budget Manager

6.0
Requirement to develop new IT budget

Legend:
Shadowed symbols are quality records

Shaded symbols are work elements outside the control of Code AO

OMB Circular A-11, IT Exhibit for previous year

6.1
Develop or update an IT Investment Strategy
DM

Program Operating Plan Guidance from NASA Administrator

NPD 2800.1 Managing Information Technology

NPG 2800.1 Managing Information Technology

6.2
Establish IT Management & Technical Goals and Objectives
CIO

CIO Focus Areas for Upcoming Year

Out of Scope Processes in Code B to issue POP Call

6.3
Conduct IT Planning Workshop with Enterprise and Center Reps
ITBM

Overview of Expected POP Process

Changes from Previous Year POP Process

Finalized Focus Areas, Recommendations for Improvement

6.4
Prepare Draft IT POP Call
ITBM

Draft IT POP Call

6.6
Return with comments
CIO

No

6.5
CIO Approved?
CIO

Approved IT POP Call

Yes

IT POP Call To Centers

6.7
Issue IT POP Call via Code B

Out of Scope Processes at Centers and Enterprises to develop input response to POP Call

Electronic reports from Enterprises & Centers

6.8
Compile and Consolidate Enterprise & Center Reports
ITBM

Summary Reports Revisions and Clarifications

6.9
Analyze Summary Reports for Anomalies and Problems
ITBM

6.11
Request Revision or Clarification
ITBM

No

6.10
Acceptable Enterprise or Center Input?
ITBM

Yes

1

Responsible Office: Code AO
Subject: IT Capital Investment Development Process

Key:
DM - Deputy CIO for Management
CIO - Chief Information Officer
ITBM - Code AO IT Budget Manager

1

6.12
Identify significant issues and budget
shortfalls/Prepare overguidline reports
ITBM

**Summary Reports -
Significant Issues and
Budget Shortfalls**

6.13
Send Summary Reports to Enterprises
for analysis and shortfall resolution
ITBM

Out of Scope Process
Enterprises develop
shortfall resolution
proposals

Enterprise Shortfall
Resolution Proposals

6.14
Identify Any Remaining Budget
Problems
ITBM

6.16
Request Resolution by IT
Investment Council
CIO & ITBM

Yes

6.15
Budget Problems?
CIO & ITBM

No

6.17
Resolution Reached?
ITBM

Yes

No

6.19
Receive Code B Request and
Produce Final Budget Exhibits
ITBM

6.18
Obtain Capital
Investment Council
(CIC) Resolution

CIO & ITBM

6.20
Submit Required Budget to Code B
for Submission to OMB
ITBM

IT Budget Exhibits

Out of Scope process in Code B. OMB
Passback received by Code B. Code B
informs Code AO of nature and scope of
Passback changes.

OMB Passback changes from
Code B

6.21
Review OMB Passback Changes
CIO & ITBM

2

Responsible Office: Code AO
Subject: IT Capital Investment Development Process

Key:
DM - Deputy CIO for Management
CIO - Chief Information Officer
ITBM - Code AO IT Budget Manager

2

6.22
Budget Changes
Required?
ITBM

No

Yes

6.23
Analyze Passback for impact on IT Budget
ITBM

6.24
Issue Resolution Required?
ITBM

CIO Guidance

6.25
Negotiate with
Enterprises to
adjust IT Budget
CIO & ITBM

Adjustments

Yes

No

Adjusted Budget

6.26
Release Final IT Budget
ITBM

Final IT Budget
Focus Area Reports
OMB-Specified Exhibits
Major IT Investment List

6.27
Distribute Final IT Budget
ITBM

IT Final Budget
Posted on CIO
Web site

6.28
Develop IT
Implementation Plan
ITBM

IT Implementation Plan

6.30
Return with
comments
CIO & ITBM

No

6.29
CIO Approval?
CIO

Yes

ApprovedIT Implementation Plan

Published
President's Budget

6..31
Release the IT
Implementation Plan
ITBM

6.32
Post IT Implementation
Plan to CIO Home Page
ITBM

6.33
Budget process completed for
current budget year

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Subject: IT Capital Investment Development Process

6.0   Procedure

The IT Capital Investment Development Process is managed by Code AO with specific authority granted to the Code AO IT Budget Manager (ITBM) by the CIO. Actions taken on behalf of the Agency by the CIO and his designee are aligned with the Strategic Management Handbook structure for Capital Investment Planning and Implementation Planning. The entire procedure is geared to produce the NASA IT Budget in accordance with guidance received from OMB through their A-11 Circular.

Step	Actionee	Action
6.1	Deputy for Management (DM)	*Develop or update an IT Investment Strategy.* In coordination with the CIO, the Deputy CIO for Management develops or updates the NASA IT Investment Strategy based on current NASA IT issues and anticipated IT budget reporting requirements from OMB.
6.2	Chief Information Officer (CIO)	*Establish IT Management & Technical Goals and Objectives.* The CIO identifies IT strategic goals and objectives needed to support the Agency's planned missions and promote cross-Enterprise efficiencies consistent with the Agency and Enterprise Strategic Plans. The identification process entails monitoring Agencywide IT resource management and frequent interaction with organizations and entities engaged in current government and industry IT support projects and an understanding of IT resource support requirements for proposed Agency activities. Awareness must be maintained of Congressional and Administration activity emphases, current industry trends, current vulnerabilities, support needs, areas needing improvement, and impending technology insertion requirements. The relationship of current and proposed Agency activities to IT resources, processes and requirements drive the Agency's IT strategic goals and objectives. These IT goals and objectives are identified as the CIO Focus Areas for the upcoming year, and they are combined with anticipated OMB budget reporting requirements to form the foundation for the NASA IT budget guidance issued as part of the budget planning process.
6.3	Code AO IT Budget Manager (ITBM)	*Conduct IT Planning Workshop with Enterprise and Center representatives.* The CIO Office invites the NASA CFO, Headquarters Enterprise and Center CIO and CFO representatives to participate in an IT planning workshop. This workshop is designed to: (1) Provide an overview of the expected IT POP process, (2) highlight changes from the previous year's IT POP process, (3) Outline CIO Focus Areas for the year (as generated in Steps 6.1 and 6.2), (4) Review anticipated OMB IT budget reporting requirements, and (5) Solicit commitments on and recommended changes to the proposed IT POP Call package (guidance and electronic reports). Action items resulting from the IT planning workshop are documented by the IT Budget Manager and tracked to closure and implementation through the use of the CIO Action Registry. The anticipated results of the Planning Workshop are: (1) consensus across the Enterprises and Centers that the CIO Focus Areas reporting and documentation requirements are appropriate and correctly represent Agency priorities, (2) recommendations for improvement to the IT POP Call that address CFO, Enterprises, and Centers requirements and needs, and (3) an understanding of the anticipated IT Budget reporting requirements placed on the Agency by OMB. The hard copy summary of the IT Planning Workshop results and recommendations becomes the quality record documenting completion of Step 6.3.
6.4	ITBM	*Prepare Draft IT POP Call.* Revise the previous year's IT POP Call Guidance package (content and format) to reflect anticipated OMB guidance, current CIO Focus Areas, recommendations obtained from the IT Planning Workshop, CIO comments, and any other pertinent changes and additions. Provide the completed

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<u>Step</u>	<u>Actionee</u>	<u>Action</u>
		draft to the CIO for approval.
6.5	CIO	*CIO Approval?* If yes, proceed to Step 6.7. If no, proceed to Step 6.6. The CIO will indicate that the IT POP call has been approved by signing the font page of the IT POP Guidance document. The signed original front page of the IT POP Guidance document becomes the quality record verifying CIO approval of the IT POP Call.
6.6	CIO	*Return with comments.* The CIO returns the Draft IT POP Call to the IT Budget Manager to disposition comments and redraft the call, as described in Step 6.4, to obtain approval. As the draft call is revised and updated, version control is maintained by embedding the creation date and time in the electronic version of the call and printing the date as part of the footer on the hard copy of the call. Return to Step 6.4.
6.7	ITBM	*Issue IT POP Call via Code B.* In coordination with the CIO, send an electronic version of the approved IT POP Call to Code B. Also, send an unofficial electronic copy of the IT POP Call to the Enterprise and Center CIOs so they may begin developing their responses. In an out of scope process Code B sends the official electronic copy of the IT POP Call to the Centers, and the Centers develop their responses to the POP call following the guidance contained in the call.
6.8	ITBM	*Compile and Consolidate Enterprise and Center Reports.* Gather electronic reports from each Headquarters Enterprise and Center. Enterprises or Centers that do not provide responses in a timely manner must be contacted and their input must be strongly solicited. The CIO Office's IT Budget Manager may also find it necessary to offer assistance to some organizations in providing a response. This assistance may include providing information from the previous year's submission or providing information from related activities. As Enterprise and Center reports begin to accumulate, summary reports are generated (by Enterprise, Center, Focus Area, and total Agency) to facilitate analysis of information and budget reporting. The electronic copies of all IT POP documents/reports are kept on the CIO Office's shared server in the IT POP folder for the budget year of the POP call. Version control of summary reports is maintained by embedding the creation or revision date in the electronic version and printing the date as part of the footer on the hard copy.
6.9	ITBM	*Analyze Summary Reports for Anomalies and Problems.* Review summary reports. Summary reports provide subtotals by Enterprise, by Center, by Focus Area and for the entire agency. As Enterprise and Center Reports are received, they are checked for reasonableness, completeness, correlation with related reports, correctness, and other issues. Reasonableness is a correlation of values from Center to Center relative to the size of the Center and known requirements at each Center. An example of improper correlation would be submission of dollar amounts in millions from one Center and in thousands from another. Reasonableness is also checked by comparison of current submission against previous year's submission. Correlation with other reports consists of checking specific focus area report totals against summary reports containing related entries to ensure corresponding items are consistently reported. Completeness is a check of whether all items required in the guidance are provided in their entirety. For instance, have all sub-elements of an organization been included? Extraneous responses are identified and highlighted, and Enterprise/Center report content/status reports are generated. As inconsistencies in reporting suspect data, or other issues are identified the reporting Enterprise or Center is informed of the issues and requested to provide resolution of the issues (as shown in Step 6.11). Once all issues are resolved and all inputs are received, narrative and exhibit information is consolidated into summary reports.

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Step	Actionee	Action
6.10	ITBM	*Acceptable Enterprise or Center Input?* If yes, proceed to Step 6.12. If no, proceed to Step 6.11.
6.11	ITBM	*Request Revision or Clarification.* Enterprise or Center inputs that contain inconsistencies in reporting, suspect data, or other issues are referred back to the reporting Enterprise or Center, and the reporting organization is requested to resolve the issues by revising their input or providing clarification. Return to Step 6.8 and seek revised input or clarification from the Enterprises or Centers until all data are acceptable. As inputs are revised and updated, version control is maintained by embedding the creation or revision date in the electronic version and printing the date as part of the footer on the hard copy of the input. The latest date electronic version of the report constitutes the current version. The electronic copies of all IT POP documents/reports are kept on the CIO Office's shared server in the IT POP folder for the budget year of the POP call.
6.12	ITBM	*Identify Significant Issues and Budget Shortfalls/Prepare Overguideline Reports.* Using Center POP reports identify significant shortfall issues related to the unfunded requirements and prepare summary reports showing the over guideline amounts and related issues at each Center. The hard copy of the reports or Email messages to the Enterprises becomes the quality record validating that the Enterprises were notified of any significant issues and/or shortfalls. The electronic copies of all IT POP documents/reports are kept on the CIO Office's shared server in the IT POP folder for the budget year of the POP call.
6.13	ITBM	*Send Summary Reports to Enterprises for Analysis and Shortfall Resolution.* Ensure that the Enterprise offices are aware of over guideline requirements and significant shortfall issues which need resolution. Coordinate resolution of the issues with the Enterprise offices.
6.14	ITBM	*Identify any Remaining Budget Problems.* Identify problems and issues, which the Enterprise offices cannot resolve in a timely manner.
6.15	ITBM and CIO	*Budget Problems?* Determine if there are any unresolved budget problems. If so, they are referred to the IT Investment Council. If there are no unresolved budget problems go to Step 6.19.
6.16	ITBM and CIO	*Request Resolution by IT Investment Council.* Refer all unresolved IT budget problems to the IT Investment Council for collaborative resolution across the Enterprises. The composition of the IT Investment Council allows for some on-the-spot resolution. If time permits, an IT Investment Council member may take an issue back to their staff for resolution.
6.17	ITBM	*Resolution Reached?* If budget problems have been resolved go to Step 6.19. Unresolved budget problems are referred to the CIC (Step 6.18) for resolution in consultation with the Administrator and Deputy Administrator.
6.18	ITBM and CIO	*Obtain Capital Investment Council Resolution.* Take IT budget problems not resolved by the IT Investment Council to the CIC for resolution. CIC resolution may result in summary changes to Enterprise budgets.
6.19	ITBM	*Receive Code B Request and Produce IT Budget Exhibits.* Once Code B determines that the CIC has approved the IT Budget, Code B issues a request for a copy of the approved IT Budget Exhibits. In response to this request, produce a set of CIC Approved IT Budget Exhibits in electronic format. OMB specifies format and content of the IT Budget Exhibits in their annual OMB Circular A-11 guidance.
6.20	ITBM	*Submit Required IT Budget Exhibits to Code B for submission to OMB.* Submit

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Step	Actionee	Action
		narrative and exhibits in electronic format for upload to OMB. In an out of scope process, Code B sends the electronic copy of the IT Budgets to OMB; OMB in turn, evaluates the budget request and issues a Passback to NASA. The dated hard of the IT Budget Exhibits submitted to Code B is the quality record of the CIC approved IT budget for submission to OMB. The electronic copies of all IT POP documents/reports are kept on the CIO Office's shared server in the IT POP folder for the budget year of the POP call. Note: The date must be subsequent to the date of the CIC budget review.
6.21	ITBM and CIO	*Review OMB Passback Changes.* Code B informs the CIO Office of changes contained in the Passback. The changes may be across-the-board or in specific areas. Also, changes in one area may require adjustments in other areas.
6.22	ITBM	*Budget Changes Required?* If not, budget process moves to Step 6.26. Otherwise, proceed to Step 6.23.
6.23	ITBM	*Analyze Passback for Impact on IT Budget.* Analyze budget Passback to identify changes required by OMB that may reduce or increase IT investment. Identify IT budget issues.
6.24	ITBM	*Issue Resolution Required?* If not, budget moves to Step 6.26. If resolution is required, go to Step 6.25.
6.25	ITBM and CIO	*Negotiate with Enterprises to adjust IT Budget.* Present adjustments issues and CIO guidance to Enterprises and negotiate budget adjustments with the Enterprises. Once the Enterprises provide adjustments, return to Step 6.23 for impact assessment of the adjustments. As inputs are revised and updated, version control is maintained by embedding the revision dates in the electronic version of the IT budget exhibit and printing the date part of the footer on the hard copy of the exhibit.
6.26	ITBM	*Release Final IT Budget.* In coordination with the CIO, release Focus Area reports (resolved such that it is clear how much funding is available for each area) and OMB specified IT exhibits. The dated hard of the Final IT Budget Exhibits submitted to Code B is the quality record of the Final IT budget for submission to OMB. The electronic copies of all IT POP documents/reports are kept on the CIO Office's shared server in the IT POP folder for the budget year of the POP call.
6.27	ITBM	*Distribute Final IT Budget.* Issue final set of exhibits detailing what funding is available, projected expenditures, and guidance for new efforts to the Enterprise Offices and Centers. Also, post the Final IT Budget to the CIO Home Page. The final IT budget is used to compile the NASA IT Investment Plan. Note: The Final IT Budget may not be made available to the general public until the President's budget is published for the budget year in question.
6.28	ITBM	*Develop IT Implementation Plan.* Use the final NASA IT Budget along with extracts from various IT POP Call inputs (Center and Enterprise Reports), CIO comments, and other information (such as IT Best Practices and Success Stories from the Centers) to develop the five year Agency IT Implementation Plan. The previous year's IT Implementation Plan should be used as much as possible to facilitate development of the updated plan. The electronic copies of all IT POP documents/reports are kept on the CIO Office's shared server in the IT POP folder for the budget year of the POP call. Note: The draft IT Implementation Plan must be labeled budget sensitive and may not be released to the general public until the President's budget for the subject budget year is published. Provide the completed draft to the CIO for approval.
6.29	CIO	*CIO Approval?* If yes, proceed to Step 6.31. Otherwise, proceed to Step 6.30. The

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<u>Step</u>	<u>Actionee</u>	<u>Action</u>
		CIO will indicate that the IT Implementation Plan has been approved by signing the font page of the IT Implementation Plan. The signed original front page of the IT Implementation Plan becomes the quality record verifying CIO approval of the IT Implementation Plan.
6.30	CIO and ITBM	*Return with Comments.* The CIO returns the Draft IT Implementation Plan to the IT Budget Manager to disposition comments and redraft the plan, as described in Step 6.28, to obtain approval. As the draft plan is revised and updated, version control is maintained by embedding the creation date and time in the electronic version of the call and printing the date as part of the footer on the hard copy of the input. The electronic copies of all IT POP documents/reports are kept on the Code AO shared server in the IT POP folder for the budget year of the POP call.
6.31	ITBM	*Release the IT Implementation Plan.* Once the President's budget for the subject year has been published, remove the budget sensitive label from the approved IT Implementation Plan, have several bound copies of the plan printed and provide copies of the plan upon request.
6.32	ITBM	*Post IT Implementation Plan to CIO Home Page.* Once the IT Implementation plan has been released post the plan to the CIO Home Page.
6.33	None	*Budget process completed for the current budget year.*

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7.0   Quality Records

Record ID	Owner	Location	Record Media	NPG 1441.1 Schedule and Item Number	Retention/Disposition
Finalized Focus Areas and Recommendations for Improvement	ITBM	CIO Office	Hardcopy	Schedule 7, Item 22	Destroy when 5 years old.
Approved IT POP Call	ITBM	CIO Office	Hardcopy	Schedule 7, Item 22	Destroy when 5 years old.
Summary Reports – Significant Issues and Budget Shortfalls	ITBM	CIO Office	Hardcopy	Schedule 7, Item 21 (F)	Destroy 1 year after the close of the budget fiscal year covered by the budget.
IT Budget Exhibits	ITBM	CIO Office	Hardcopy	Schedule 7, Item 21 (G) (1)	*PERMANENT* Retire to FRC by fiscal year when no longer needed for active reference or when 10 years old. Transfer to NARA when 20 years old.
Final IT Budget	ITBM	CIO Office	Hardcopy	Schedule 7, Item 21 (G) (1)	*PERMANENT* Retire to FRC by fiscal year when no longer needed for active reference or when 10 years old. Transfer to NARA when 20 years old.
Approved IT Implementation Plan	ITBM	CIO Office	Hardcopy	Schedule 2, Item 12 (D) (1)	Destroy when 5 years old.